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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,353	10/29/2003	Noboru Matsusaka	2018-799	5989
23117	7590	06/14/2005	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			ROJAS, BERNARD	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

EP

<b>Office Action Summary</b>	Application No. 10/695,353	Applicant(s) MATSUSAKA ET AL.	
	Examiner Bernard Rojas	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10292003</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komiyama et al. [US 6,864,771].

Claim 1, Komiyama et al. discloses an apparatus comprising:

a plunger [20];

a stator [12] that forms a magnetic circuit in combination with the plunger, the stator further defining:

an accommodation portion for supporting the plunger with the accommodating portion so that the plunger is capable of reciprocation [figure 1]; and

an attraction portion [14], wherein a magnetic attractive force attracts the plunger in a reciprocating direction of the plunger and acts between the attracting portion and the plunger; and

a coil [30] that generates the magnetic attractive force when energized, wherein either one or both of at least an outer peripheral wall of the plunger and at least an inner peripheral wall of the accommodating portion form(s) a magnetic portion made of nickel phosphide [col. 3 line 60 to col. 4 line 1], and

Komiyama et al. fails to teach that the phosphorus content of the magnetic portion is set within a range of 5% to 15% in mass percentage.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the phosphorus content to change the material strength/smoothness, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Claim 2, Komiyama et al. discloses the claimed invention except for the magnetic portion is heat treated. It would have been obvious to one having ordinary skill in the art at the time the invention was made to heat treat the magnetic portion since it was known in the art that heat treatment of the magnetic portion will increase its strength.

Claim 3, Komiyama et al. discloses an apparatus comprising:

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a housing defining a plurality of fluid paths [IN and OUT] through a peripheral wall thereof;

a plunger [20];

a stator [12] located adjacent to the cylindrical housing, the forming a magnetic circuit in combination with the plunger, the stator further defining:

an accommodation portion for supporting the plunger with the accommodating portion so that the plunger is capable of reciprocation [figure 1]; and

an attraction portion [14], wherein a magnetic attractive force attractive force attracts the plunger in a reciprocating direction of the plunger and acts between the attracting portion and the plunger; and

a coil [30] that generates the magnetic attractive force when energized, wherein either one or both of at least an outer peripheral wall of the plunger and at least an inner peripheral wall of the accommodating portion form(s) a magnetic portion made of nickel phosphide [col. 3 line 60 to col. 4 line 1], and

a moving member [21, 22] for reciprocating together with the plunger to control a flow rate of fluid flowing through the fluid paths; and

a biasing means [25] for biasing the moving member in a direction opposite to a direction in which the plunger is attracted by the attracting portion.

Komiyama et al. fails to teach that the phosphorus content of the magnetic portion is set within a range of 5% to 15% in mass percentage.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the phosphorus content to change the material strength/smoothness, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.


### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M-F 8-4:00, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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